

Microvascular Research

AN INTERNATIONAL JOURNAL

FOUNDING EDITORS:

George P. Fulton David Shepro Benjamin Zweifach

Editor-in-Chief

David Shepro

Volume 18

1979



ACADEMIC PRESS
New York and London

Copyright © 1979 by Academic Press, Inc.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (Operations Staff, P.O. Box 765, Schenectady, New York 12301), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1979 articles are the same as those shown for current articles.

MADE IN THE UNITED STATES OF AMERICA

CONTENTS OF VOLUME 18

Number 1, July 1979

EDITORIAL NOTE	iii
HERBERT J. GLATT AND PAUL HENKIND. Aging Changes in the Retinal Capillary Bed of the Rat	1
G. S. DIMITRIEVICH, K. FISCHER-DZOGA, R. M. LEE, AND M. L. GRIEM. <i>In Vivo</i> Measurement of Microvasculature: A Method for Repeated and Reproducible Quantitation during Long-Term Experiments	18
K. H. ALBRECHT, P. GAEHTGENS, A. PRIES, AND M. HEUSER. The Fahraeus Effect in Narrow Capillaries (i.d. 3.3 to 11.0 μm)	33
CURT A. WIEDERHIELM. Dynamics of Capillary Fluid Exchange: A Non-linear Computer Simulation	48
R. K. REED. An Implantable Colloid Osmometer. Measurements in Subcutis and Skeletal Muscle of Rats	83
GEORGE J. GREGA, DAVID E. DOBBINS, JERRY B. SCOTT, AND FRANCIS J. HADDY. Effects of Histamine and Increased Venous Pressure on Transmicrovascular Protein Transport	95
STANLEY I. RAPOPORT AND KAREN D. PETTIGREW. A Heterogenous, Pore-Vesicle Membrane Model for Protein Transfer from Blood to Cerebrospinal Fluid at the Choroid Plexus	105
TECHNICAL REPORT	
RICHARD JUSTICE, GENE A. GRINDLINGER, DAVID SHEPRO, AND HERBERT B. HECHTMAN. A New Papillary Muscle Chamber to Test Small Plasma Volumes	120
BRIEF COMMUNICATION	
C. A. WIEDERHIELM, E. BOUSKELA, R. HEALD, AND L. BLACK. A Method for Varying Arterial and Venous Pressures in Intact, Un-anesthetized Mammals	124

Number 2, September 1979

STEPHEN M. SHEA. Glomerular Hemodynamics and Vascular Structure. The Pattern and Dimensions of a Single Rat Glomerular Capillary Network Reconstructed from Ultrathin Sections	129
JOHN N. DIANA AND BERNARD P. FLEMING. Some Current Problems in Microvascular Research	144
BRUCE M. FENTON, B. W. ZWEIFACH, AND D. M. WORTHEN. Quantitative Morphometry of Conjunctival Microcirculation in Diabetes Mellitus ..	153
R. E. PARKER, D. N. GRANGER, B. H. COOK, H. J. GRANGER, AND A. E. TAYLOR. A Histochemical Analysis of Vascular and Nonvascular Smooth Muscles in the Canine Lung	167

STUART K. WILLIAMS, MAUREEN A. MATTHEWS, AND ROGER C. WAGNER. Metabolic Studies on the Micropinocytic Process in Endothelial Cells	175
ROBERT WHITE, EDWARD C. CARLSON, KLAUS BRENDDEL, AND ELIAS MEEZAN. Basement Membrane Biosynthesis by Isolated Bovine Retinal Vessels: Incorporation of Precursors into Extracellular Matrix	185
HARRIS J. GRANGER. Role of the Interstitial Matrix and Lymphatic Pump in Regulation of Transcapillary Fluid Balance	209
ROBERT A. BRACE AND ARTHUR C. GUYTON. Interstitial Fluid Pressure: Capsule, Free Fluid, Gel Fluid, and Gel Absorption Pressure in Sub- cutaneous Tissue	217
JAMES E. MCNAMEE AND NORMAN C. STAUB. Pore Models of Sheep Lung Microvascular Barrier Using New Data on Protein Tracers	229
GERALD A. HIGGS, DAVID C. CARDINAL, SALVADOR MONCADA, AND JOHN R. VANE. Microcirculatory Effects of Prostacyclin (PGI ₂) in the Hamster Cheek Pouch	245
JAMES R. FOX AND HAROLD WAYLAND. Interstitial Diffusion of Mac- romolecules in the Rat Mesentery	255
ABSTRACTS OF PAPERS PRESENTED AT A MEETING OF THE BRITISH MI- CROCIRCULATION SOCIETY: April 7 and 8, 1978, University of Newcastle upon Tyne, England	277
ABSTRACTS OF PAPERS PRESENTED AT A MEETING OF THE BRITISH MI- CROCIRCULATION SOCIETY: April 6 and 7, 1979, St. George's Hospital Medical School, London, England	280
ABSTRACTS OF PAPERS PRESENTED AT THE 9TH MEETING OF THE NORDIC MICROCIRCULATION GROUP: February 1-4, 1979, Geilo, Norway	288
MEETING ANNOUNCEMENT—First Australasian Symposium on the Microcir- culation	300

Number 3, November 1979

W. L. JOYNER, E. SVENSJÖ, AND K.-E. ARFORS. Simultaneous Mea- surements of Macromolecular Leakage and Arteriolar Blood Flow as Altered by PGE ₁ and β_2 -Receptor Stimulant in the Hamster Cheek Pouch	301
HEINZ D. PAPPENFUSS, JOSEPH F. GROSS, MARCOS INTAGLIETTA, AND FRED A. TREESE. A Transparent Access Chamber for the Rat Dorsal Skin Fold	311
J. R. CASLEY-SMITH AND D. B. CARTER. The Passage of Macromolecules across Inflamed Capillary Endothelium via Large Vacuoles	319
RONALD G. TILTON, CHARLES KILO, AND JOSEPH R. WILLIAMSON. Pericyte-Endothelial Relationships in Cardiac and Skeletal Muscle Capillaries	325

RONALD G. TILTON, CHARLES KILO, JOSEPH R. WILLIAMSON, AND DONALD W. MURCH. Differences in Pericyte Contractile Function in Rat Cardiac and Skeletal Muscle Microvasculatures	336
CATHERINE T. CHAN, PETER BRECHER, CHRISTIAN HAUDENSCHILD, AND ARAM V. CHOBANIAN. The Effect of Cholesterol Feeding on the Metabolism of Rabbit Cerebral Microvessels	353
G. L. GUSSIS, R. L. JAMISON, AND C. R. ROBERTSON. Determination of Erythrocyte Velocities in the Mammalian Inner Renal Medulla by a Video Velocity-Tracking System	370
GEORGE S. HARELL, AARON B. CORBET, WILLIAM H. DICKHONER, AND BEVERLY R. BRADLEY. The Intraluminal Distribution of 15- μ m-Diameter Carbonized Microspheres within Arterial Microvessels as Determined by Vital Microscopy of the Golden Hamster Cheek Pouch ..	384
IREN B. KOVÁCS AND PETER GÖRÖG. Laser-Induced Thrombosis Test Suitable for Pharmacological Screening Studies	403
ANTHONY KOO AND ISABELLA Y. S. LIANG. Vagus-Mediated Vasodilator Tone in the Rat Terminal Liver Microcirculation	413
JAN DOROSZEWSKI, ZOFIA GOŁAB-MEYER, AND WŁODZIMIERZ GURYN. Adhesion of Cells in Flowing Suspensions: Effects of Shearing Force and Cell Kinetic Energy	421
K. P. IVANOV, YU. YA. KISLAYOKOV, AND M. O. SAMOILOV. Microcirculation and Transport of Oxygen to Neurons of the Brain	434
BRIEF COMMUNICATION	
T. C. CETAS AND M. ROBERT BOONE. Temperature Measurements of a Transparent Access Chamber for the Rat Dorsal Fold	442
ABSTRACTS OF PAPERS PRESENTED AT THE 3RD MEETING OF THE GESELLSCHAFT FÜR MIKROZIRKULATION, DECEMBER 1 AND 2, 1978, KARLSRUHE, GERMANY	447
AUTHOR INDEX FOR VOLUME 18	455
CUMULATIVE SUBJECT INDEX FOR VOLUMES 17-18	456

